



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,432	02/11/2004	Jeffrey Nicholson	4	2886
7590 04/19/2005				
Wendy W. Koba PO Box 556 Springtown, PA 18081			EXAMINER ULLAH, AKM E	
			ART UNIT 2874	PAPER NUMBER

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,432

Applicant(s)

NICHOLSON, JEFFREY

Examiner

Akm Enayet Ullah

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-10 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/11/04 & 5/10/04

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Status of the Application

Claims 1- 18 are pending in this application.

Claims 11 and 12 are objected.

Claims 1-10 and 13-18 are rejected under 35 USC 103.

If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

If applicant provides prior art, he/she is requested to cite it on form PTO-1449 in accordance with the guideline set forth in MPEP 609.

Drawings

This application has been filed on February 11, 2004 with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2874

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 10 and 13-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galvanauskas et al (USPNO. 5,499,134) in vie of Fermann et al (USPNO. 5,880,877).

Galvanauskas et al disclose an optical pulse amplification using chirped Bragg gratings comprising as follows:

- ***a femtosecond pulse source***
- ***a phase conditioning optical dispersive element which produce a pulse with a desired phase***
- ***a rare earth doped fiber amplifier coupled to the output pf the dispersive element***
- ***a rare earth doped fiber amplifier comprising a section of rare earth doped single mode fiber of a predetermined length dispersive element***
- ***Regarding claims 2-5, amplifier comprises an erbium-doped fiber amplifier, femtosecond pulse source comprises a mode locked rare-earth doped laser, the mode locked rare-earth doped laser comprises a mode locked erbium-doped fiber laser and dispersive element an input section of a single mode fiber is mentioned in column 5 of Galvanauskas et al.***

- *Regarding claim 6, wherein input section of single mode fiber comprises a length of at most two meters mentioned in column 7, second paragraph and column 11, last paragraph of Fermann et al.*
- *Regarding claims 7-9, wherein the phase conditioning optical dispersive element comprises a Bragg grating, Bragg grating comprises a fiber Bragg grating and a Bragg grating comprises a tunable Bragg grating mentioned in columns 4-5 of Galvanauskas et al.*
- *Regarding claim 13, wherein the output section of single mode fiber comprises a length less than 50 cm mentioned in column 7, second paragraph and column 11, last paragraph of Fermann et al.*
- *Regarding claim 14, wherein the section of rare earth doped single mode fiber of the fiber amplifier comprises a length of less than five meters mentioned in column 7, lines 19-22 and column 13, first paragraph of Fermann et al.*
- *Regarding claim 15, the length of the erbium doped single mode fiber is at most two meters mentioned in column 7, lines 29-30 and column 13, first paragraph of Fermann et al.*
- *Regarding claim 18, wherein the dispersive element, rare earth doped amplifier and output section of single mode fiber all comprises polarization-maintaining fiber. For details see column 12, third paragraph and column 15, lines 60-65 of Fermann et al.*
- *Galvanauskas et al differ from the claimed invention because he does not explicitly disclose wavelength division multiplexer. The use of any type of*

wavelength division multiplexer is very elementary teaching & well known in this filed.

- *Fermann et al is the evidence that ordinary skill in the art would find a reason, suggestion or motivation to have a any type of wavelength division multiplexer in (WDM) for introducing the output of the at least one source of optical pump power and the output of the dispersive element into the section of rare earth doped fiber in the apparatus of Galvanauskas et al since, WDMs can have a free space outputs, which is useful in minimizing any coupler leads and optical losses in amplifier systems. And also it stated that polarization beam splitters for the pump light could be concluded at the WDM couplers to allow the use of up to four diodes. For details see figure 6 and column 12 of Fermann et al.*
-
- *Regarding claim 10, reference differ from the claimed invention because he does not explicitly disclose a rare earth doped fiber amplifier comprises a pair of co-propagating pump sources and a pair of counter propagating pump sources.*
- *Fermann et al is the evidence that ordinary skill in the art would find a reason, suggestion or motivation to use Fermann et al in Galvanauskas et al reference since figure 6 explain a full polarization stability, a polarization maintaining amplifier (PMA) can be used and it's uses is beneficial for the system. For details see columns 12, 13 and 15.*

Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galvanauskas et al (USPNO. 5,499,134) in view of Richardson et al. (USP Pub.no.2003/0156606).

- *Regarding claim 16 wherein at least one source of optical pump power provides a pump signal at a wavelength of 1480nm*
- *Regarding claim 17, wherein the at least one source of optical pump power provides a pump signal at a wavelength of 980nm.*
- *The use of such pump signal at a wavelength of 980 nm and 1480 nm is very elementary teachings in this optical art.*
- *Galvanauskas et al differ from the claimed invention because he does not explicitly disclose pump signal at a wavelength of 980 nm and 1480 nm as claimed in claims 16 and 17.*
- *Richardson et al. is the evidence that ordinary skill in the art would find a reason, suggestion or motivation to have such wavelength in Galvanauskas et al since, paragraph 0144 through paragraph 0145 teach such ranges of wavelength pumping configuration.*
-

Furthermore applicant has not described this limitation as being critical or as yielding unexpected benefits. Certainly a person of ordinary skill in the art would find it beneficial to have such ranges from a source for generating high peak power, femtosecond optical pulses at 980 nm and 1480 nm.

Objection to Claim, Allowable Subject Matter

Claim 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 571-272-2361. The examiners can normally be reached on Monday through Wednesday from 5:30 am to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on Monday through Friday whose telephone number is 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/776,432
Art Unit: 2874

Page 8


Akm Enayet Ullah
Primary Examiner
Art Unit 2874

Aullah

April 12, 2005